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Brad D. Tidwell

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2419

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/758,903

**Applicant(s)**

TIDWELL ET AL.

**Examiner**

JEFFREY M. RUTKOWSKI

**Art Unit**

2419

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 12-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9, 12-15, 17-19, 21, 22, 24-32, 36 and 37 is/are rejected.
- 7) ☒ Claim(s) 6, 10, 16, 20, 23 and 33-35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

**Claim 11** has been cancelled.

### *Claim Objections*

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered **claims 37 and 38** have been renumbered **claims 36 and 37**.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. **Claims 1-3, 7-8, 13, 17-18, 21, 24-27 and 37-38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux (US Pat 6,775,305) in view of Daruwalla et al. (US Pat

7,058,007), hereinafter referred to as Daruwalla, and Lowell et al. (US Pat 6,282,265), hereinafter referred to as Lowell.

4. For **claims 1, 7-8, 13, 17-18, 21 and 24-27**, Delvaux teaches two types of High Speed Digital Subscriber Line (HDSL) architectures. For HDSL transmission, a mapper (logic) is used to transmit a portion of a data stream over one copper pair, while a second portion of the data stream is transmitted over a second copper pair. For HDSL reception, a mapper is used to reconstruct the original data stream [**col. 5 lines 35-55**]. The first type of HDSL architecture uses a two twisted copper wire pairs to provide T-1 capacity service of 1.54 Mbps. A European version of the HDSL architecture uses three twisted copper wire pairs with respective transceivers, multiplexers and demultiplexers to provide E-1 capacity service of 2.048 Mbps [**col. 4 lines 54-64**].

5. Lowell expands on the teachings of Delvaux by disclosing spare wire pairs are commonly used in telecommunications networks, including HDSL networks [**col. 1 lines 15-30, col. 3 lines 35-40**]. Additionally, market forces are requiring telecommunications companies to optimize copper plant [**col. 1 lines 1-19**]. Since Delvaux teaches there are two approaches to implementing an HDSL architecture and Lowell teaches spare wire pairs are used in HDSL networks, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use a European three transceiver set to provide T-1 capacity service to optimize the telecommunications network by providing a spare channel to perform, inter alia, out-of-band management functions [**Lowell, col. 1 lines 25-30**]. The person of ordinary skill in the art would recognize that there is a reasonable expectation of success by using a European transceiver set to provide T-1 services because there is no change the intended use of the European transceiver set.

6. Delvaux does not teach a 1:N protection scheme. Daruwalla teaches the 1:N protection limitation absent from the teachings of Delvaux by disclosing a Cable Modem Termination System (CMTS) architecture (high speed architecture) where one working machine provides protection for all of the other machines [col. 6 lines 24-27]. A path switch occurs when a component in the CMTS architecture is detected to have failed [col. 13 lines 10-15]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a 1:N protection scheme in Delvaux's invention to avoid having a single point of failure in the network [Daruwalla, col. 5 lines 45-60].

7. For **claims 2 and 3**, Delvaux teaches the transceivers are located in a Central Office (CO) **20** and a Customer Premises (CP) **40** [figure 2].

8. For **claims 37 and 38**, Delvaux discloses the use of synchronous data streams [col. 8 lines 23-25].

9. **Claims 4, 9, 14, 19 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux in view of Daruwalla and Lowell, as applied to **claim 1** above, and further in view of Doll et al. (US Pat 5,694,398), hereinafter known as Doll.

10. For **claims 4, 9, 14, 19 and 22**, the combination of Delvaux, Daruwalla and Lowell do not teach the use of transformers. Doll teaches transformers **LTx** are used in Network Termination (NT) equipment [figure 2]. Phantom connections from taps on the subscriber side of the transformers are used to supply subscriber terminals [col. 4 lines 27-46 and figure 2] (a transformer coupled to the third transceiver, the transformer having a pair of taps coupled to the third subscriber line). Figure 2 also shows a DC power source is used to supply a voltage across transformer taps. It would have been obvious to a person of ordinary skill in the art at the time

of the invention to use transformers in Delvaux's invention to supply operational voltage to subscriber equipment.

11. **Claims 5, 12 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux in view of Daruwalla and Lowell, as applied to **claim 1** above, and further in view of Renucci et al. (US Pat 6,996,134), hereinafter known as Renucci.

12. For **claims 5, 12 and 15**, the combination of Delvaux, Daruwalla and Lowell do not teach the use of a control element or a Direct Current (DC) power source. Renucci teaches a power conditioner **64** injects Direct Current (DC) power into the modulated signal to provide power to customer equipment [**col. 5 lines 52-55**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a DC power source in Delvaux's invention to make sure customers will still have phone service during a power outage at the customer location.

13. Renucci also teaches the control element limitation absent from the teachings of the combination of Delvaux, Daruwalla and Lowell by disclosing bypass relays **82** are used to switch subscriber lines **84A,84B** from a processing module **78** to AML modulator/demodulator **76** [**col. 9 lines 5-10 and figure 5**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use bypass relays in Delvaux's invention to implement a 1:N protection scheme in hardware.

14. **Claims 6, 10, 16, 20 and 23**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux in view of Daruwalla and Lowell, as applied to **claims 1** above, and further in view of Obelode et al. (US Pat 4,935,642), hereinafter known as Obelode.

15. For **claims 6, 10, 16, 20 and 23**, Delvaux does not teach the summation of power. Daruwalla teaches transmission power is re-optimized after a failure [**col. 13 lines 40-55**]. The combination of Delvaux, Daruwalla and Lowell do not teach the summation of power across the subscriber lines. Obelode teaches the summation of power limitation absent from the teachings of Delvaux, Daruwalla and Lowell by disclosing the distribution of electric power to functional units [**abstract**]. A preset limit value of the total power supply, power coming in from subscriber lines [**col. 3 lines 25-30**], needs to be less than the sum of the highest possible individual powers (**P10, P11, P12**) [**abstract**] (further comprising a control element configured to sum power from at least two of the subscriber lines). It would have been obvious to a person of ordinary skill in the art at the time of the invention to calculate the total power supply via summation of the subscriber lines in Delvaux's invention to make sure the subscriber lines supply enough power to allow a subscriber's station to operate.

16. **Claims 28-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux in view of Daruwalla and Lowell as applied to **claims 1, 7, 13, 17 and 21** respectively above, and further in view of Itri (US Pat 5,864,592).

17. For **claims 28-32**, Delvaux teaches the use of transceivers in an HDSL architecture. The combination of Delvaux, Daruwalla and Lowell does not teach a speed associated with the HDSL architecture. Itri teaches an HDSL architecture is made up of two 772 Kbit/sec channels [**col. 1 lines 20-25**]. It would have been obvious to a person of ordinary skill in the art at the

time of the invention to use 772 Kbit/sec channels in Delvaux's invention to provide T-1 services to end-users [Itri, col. 1 line 20].

***Response to Arguments***

18. The argument with respect to Lowell and Delvaux not containing a suggestion to the use of a transceiver to backup another transceiver in the same circuit is not persuasive because this feature, which is 1:N redundancy, was cited as being disclosed by Daruwalla.

19. The argument with respect to that it would not have been obvious to use of a European transceiver set to provide T-1 services due to insufficient support in the cited art is not persuasive. The only difference, according to Delvaux, between an HDSL implementation that uses T1 carrier service and an HDSL implementation that uses the European E1 service is the European version uses one more transceiver in the transceiver set [col. 4 lines 55-63]. The reason why Europe uses one more transceiver is because the E1 capacity service has a bandwidth of 2.048 Mbit/s, as opposed to 1.544 Mbit/s for T1 service. Since the only difference between the North American and the European transceiver sets is the number of transceivers used and Lowell discloses the use of spare wire pairs, the prior art supports the allegation of obviousness.

20. The argument with respect to a European transceiver set is configured to communicate via different protocols is not persuasive because Delvaux discloses the only difference between the European and North American HDSL implementations is the capacity service used [col. 4 lines 55-63].



21. The argument with respect to the European transceiver set teaching away is not persuasive because the proposed modification was to use a European transceiver set in a T1 carrier service in light of what was disclosed by Delvaux and Lowell.
22. The argument with respect to Renucci not disclosing providing power from a subscriber line to a DC source is not persuasive. Renucci's invention injects DC power into modulated signals, which are sent over subscriber lines, to provide drive customer premise equipment [col. 5 lines 53-60]. The CPE contains a power extractor (DC power source) to extract the injected power [figure 5].
23. The argument with respect to Obelode not disclosing the summation of power is persuasive.

*Allowable Subject Matter*

24. **Claims 6, 10, 16, 20, 23 and 33-35** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski  
Patent Examiner  
12/23/2008

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